WHAT IS CLAIMED IS:

1. A method of logging in a device to a network of devices, comprising the steps of:

storing, in each device, an identification number unique to that device, the identification number having a number of bits, each having a bit position;

delivering a control code to each device on the network indicating that a login process is to begin;

broadcasting a pattern of requests to all devices, each request representing a request to each device to acknowledge whether a given bit position of its identification number has a given binary value;

receiving acknowledgements from the devices; and

traversing a binary tree in response to acknowledgements, thereby determining the identification number of the device.

2. The method of Claim 1, wherein the network is a wireless network and the broadcasting and receiving steps are performed with wireless signals.

3. The method of Claim 1, wherein the network is a network of calculators.

4. The method of Claim 1, wherein the network is a local area network of computers.

5. The method of Claim 1, wherein the method is performed by a hardware logic device.

6. The method of Claim 1, wherein the method is performed by a processor-based device.

7. The method of Claim 1, wherein the first request is a request to acknowledge a one rather than a zero, and wherein the second request is a request to acknowledge a zero rather than a one.

8. The method of Claim 1, wherein the acknowledgement is any signal above a noise threshold.

9. The method of Claim 1, further comprising the step of maintaining a tracking register associated with each device to track acknowledgements.

10. The method of Claim 1, wherein each device ceases to send acknowledgements for subsequent bit positions after it cannot acknowledgement with respect to any bit position.

11. The method of Claim 1, further comprising the step of ending the login process if two successive requests for values of the same bit position are not acknowledged.

12. A method of logging in a device to a network of devices, comprising the steps of:

storing, in each device, an identification number unique to that device, the identification number having a number of bits, each having a bit position;

delivering a control code to each device on the network indicating that a login process is to begin;

broadcasting a first request to all devices, the first request representing a request to each device to acknowledge whether the first bit position of its identification number has a zero;

receiving acknowledgements from the devices in accordance with the following steps:

if an acknowledgement to the first request is received, repeating the broadcasting step for the next bit position of the identification number;

if no acknowledgement to the first request is received broadcasting a second request to all devices, the second request representing a request to each device to acknowledge whether the first bit of its identification number is a one; and if an acknowledgement to the second request is received, repeating the first broadcasting step for the next bit position of the identification number; and if no acknowledgement to the second request is received, ending the login process;

repeating the broadcasting and receiving steps for each bit position of the identification number; and

traversing a binary tree in response to acknowledgements, thereby determining the identification number of the device.

13. A network controller for login in a device to a network of devices, comprising:

processing circuitry for performing the following tasks:

delivering a control code to each device on the network indicated that a login process is to begin;

broadcasting a pattern of requests to all devices, each request representing a request to each device to acknowledge whether a given first bit position of its identification number has a given binary value;

receiving acknowledgements from the devices; and

traversing a binary tree in response to acknowledgements, thereby determining the identification number of the device.

14. The controller of Claim 13, wherein the processing circuitry is a programmable logic device.

15. The controller of Claim 13, wherein the processing circuitry is a processor and program memory.

16. The controller of Claim 13, wherein the network is a local area network of computers, and the controller is part of a network server.

17. The controller of Claim 13, wherein the network is a network of calculators, and the controller is a hardware communications controller.